Overcoming Return to Work Problems

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Background: Return to work

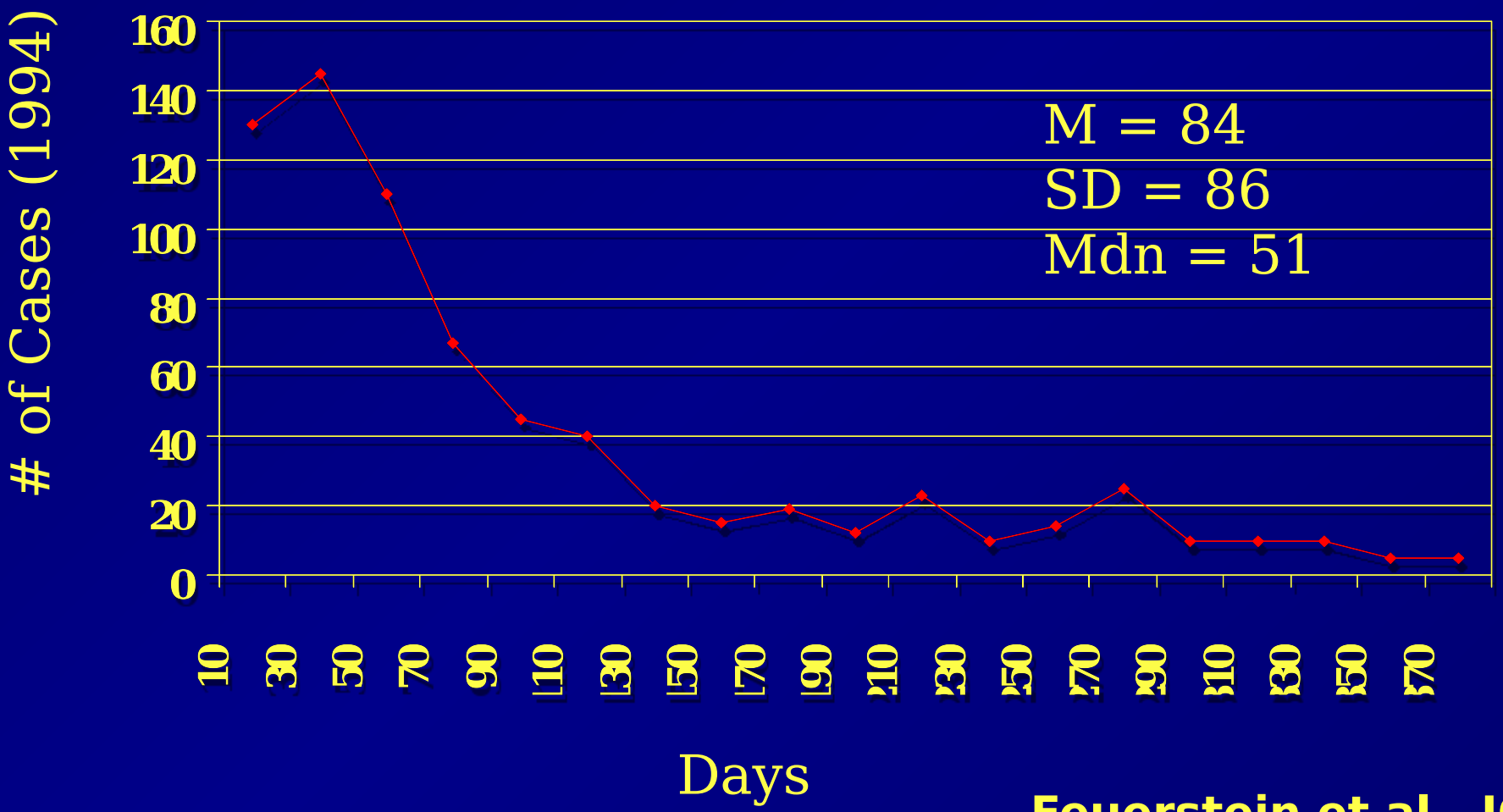
- Prolonged work disability can be the result of ergonomic risk as well as psychosocial factors
- Integrating RTW efforts of providers and employers has been difficult
- RTW is a complex, collaborative process
- RTW interventions need to efficiently and effectively identify and overcome multiple barriers to RTW

Work-related upper extremity disorders in the Federal workforce

- Total Federal workforce: 2.9 m
- Total W/C claims: 185,927
- Total UE cases by ICD-9: 8,147
- Multiple claims 2,303
- Single claims 5,844

1994 data; Feuerstein et al., JOEM 1998

Lost work days



Feuerstein et al., JOEM 199

Factors Related to Work Disability

Table 3
Logistic regression analysis discriminating participants not working ($n = 107$) from those working modified duty ($n = 58$)

Step	Variables tested	Stepwise variable selection			Final model[a]	
		Chi-square	Model −2 log likelihood	Sig. of the change	Adjusted OR[b]	95% CI
1	Age	0.34	213.6	0.560		
	Male gender	0.76	213.2	0.383		
	Diagnosis[c]	10.27	203.7	0.016		
	Mononeuropathy only				–	
	Enthesopathy only				0.316	0.14–0.73
	Both diagnoses				1.279	0.33–4.99
	Other				0.384	0.14–1.02
2	UE surgery	3.43	200.3	0.064		
	Treatment helpfulness rating	0.33	203.4	0.566		
3	Pain rating	4.26	199.4	0.039	1.426	1.014–2.006
4	Symptom severity	1.35	198.4	0.295		
5	Problem solving	0.00	199.4	0.983		
	Feel overwhelmed by pain	1.31	198.0	0.0226		
	Not at all					
	Sometimes					
	Quite a bit					
	Often					
6	Functional limitation	6.47	193.0	0.011	1.627	1.110–2.384
7	Ergonomic exposure	5.89	187.1	0.015	1.623	1.087–2.425
	Physical exertion	0.48	192.5	0.488		
	Fast paced work style	0.57	192.4	0.449		
	Working despite discomfort		193.0	0.966		
8	Physical health status (SF-12)	0.43	186.7	0.512		
	Mental health status (SF-12)	0.19	186.9	0.660		

[a] Final model: OR (not working:working) = exp[0.997 − 0.869 (if 'other' diagnosis) − 0.903 (if enthesopathy only) + 0.222 (if enthesopathy and mononeuropathy) + 0.125 (pain rating) + 0.417 (functional limitation) + 0.484 (ergonomic exposure)].

[b] ORs adjusted for variables retained in previous steps; z-scores used for continuous variables.

[c] ORs for categories of diagnosis reflect comparison to reference category of 'mononeuropathy only'.

Factors Contributing to Functional Limitations

TABLE 5
Forward Stepwise Selection of Variables for Multiple Regression Analysis Predicting Upper Extremity Functional Limitation (N = 165)

Step	Variables Tested	Stepwise Partial Correlation	F to Enter	*P*	R^2	Adjusted R^2	Standardized Coefficient	Unstandardized Coefficient	95% Confidence Limits
1	Age	.008	0.01	.919					
	Gender	−.192	6.23	.014	.037	.031	−0.186	−0.909	−1.481 to −0.337
2	Diagnosis*		2.19	.091					
	Mononeuropathy (n = 101)	—							
	Enthesopathy (n = 31)	−.188							
	Mononeuropathy and enthesopathy (n = 13)	−.036							
	Other diagnoses (n = 20)	.029							
3	Pain rating	.429	36.60	<.001	.214	.205	−0.010	−0.000864	−0.14 to 0.012
	Symptom severity scale	.501	54.05	<.001	.412	.401	0.468	1.273	0.871 to 1.675
4	Hand symptoms	.174	5.02	.026	.430	.415	0.118	0.335	0.002 to 0.667
	Elbow symptoms	.066	0.69	.406					
	Shoulder symptoms	−.074	0.89	.347					
	Neck symptoms	−.029	0.14	.713					
5	SF-12 physical health component	−.086	2.18	.280					
	SF-12 mental health component	−.116	1.18	.142					
6	Feeling overwhelmed by pain	.248	10.41	.002	.465	.448	0.189	0.428	0.112 to 0.744
	Confidence in problem solving	−.183	5.48	.020	.483	.463	−0.123	−0.132	−0.025 to −0.001
7	Ergonomic risk factor exposure	.164	4.33	.039	.497	.474	0.127	0.0114	0.001 to 0.022
8	Physical exertion at work	.107	1.81	.181					
	(Constant)							2.619	

* Stepwise partial correlations are for dummy coding with "mononeuropathy only" as reference category.

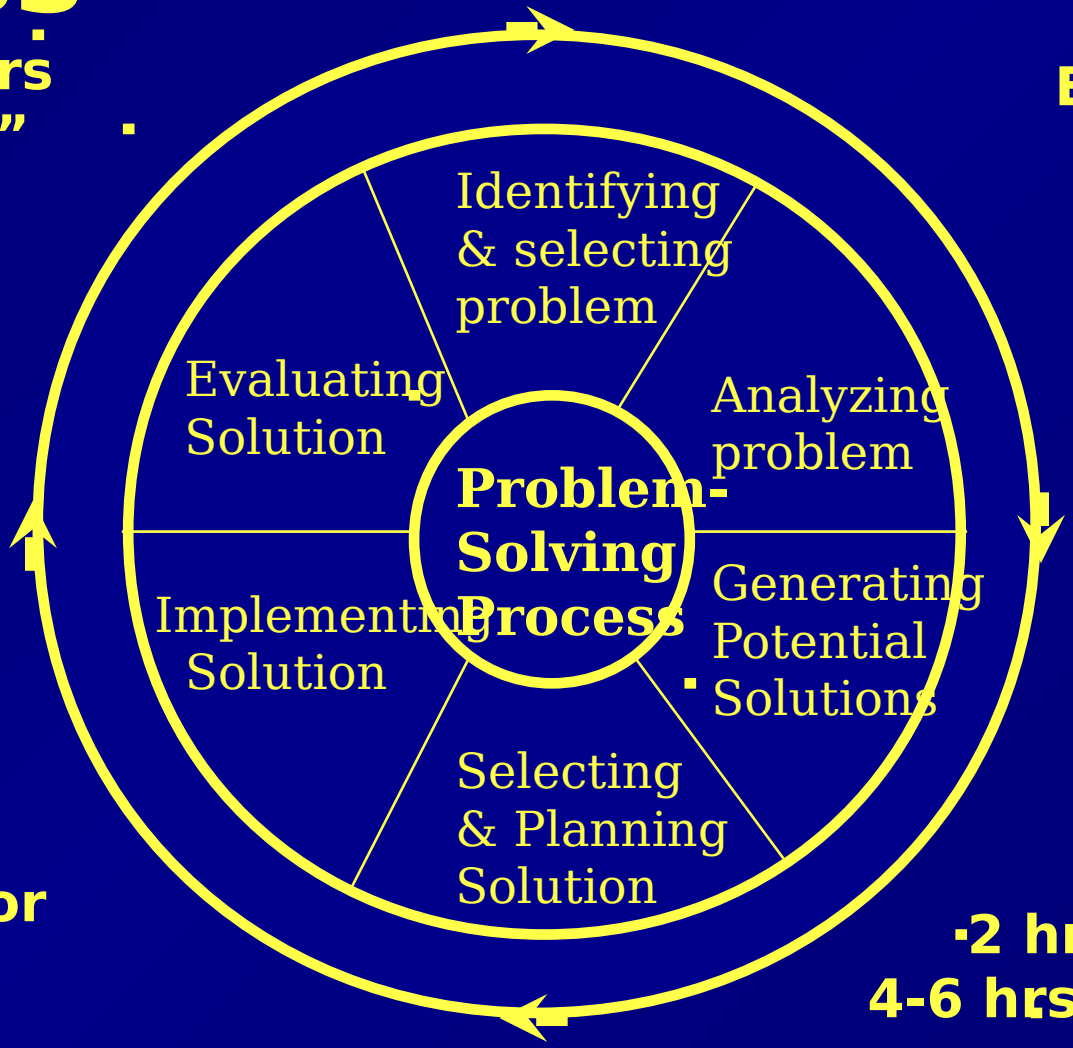
Integrated Case Management

- Identify factors that affect recovery and RTW
- Address through education & skills training
- Foster collaborative interactions
- Apply knowledge and techniques in ergonomics
- Model and teach problem solving strategies
- Facilitate work site accommodations

Problem Solving Process

Case managers as “trainers”

Exercises and hand-outs



Trial-and-error process

2 hrs orientation
4-6 hrs applied to RTW

Example of Problem Solving Application
Step 1: Identifying the problem

- Reduce the scope
  - Specific functional limitations at work or home?
- Include more details
  - When and where?
- Include implications
  - “and this makes me enjoy my work less”
- Make it personal
  - “being productive is important to me”
- Identify desired end state
  - “I’d like to avoid a flare-up”

Method

- Integrated Case Mgmt (ICM) training
  - U.S. Dept of Labor, Office of Workers' Comp
  - Contract field nurses in 7 metro areas
  - 50% randomly selected to participate (N = 65)
  - 2-day training seminar
- Randomized, controlled trial of ICM
  - Work-related upper extremity disorders
  - Inception cohort, 2 years, N = 165
  - Randomized to ICM or usual CM care

Case Definition

- Accepted claims for work-related injuries
- ICD-9: Hand, wrist, arm, shoulder, or neck
  - 354: Mononeuritis
  - 726: Enthesopathies
  - 727: Tendon Disorders
  - 729: Soft Tissue
- <90 days lost work time from onset
- Single claims, no prior claims w/in past 2 years

Occupations

	n	%
Postal carrier	33	20%
Postal clerk	37	22%
Admin clerk	42	25%
Managerial[1]	25	15%
Mechanical/Elec	14	9%
Other[2]	14	9%

[1]Managerial includes both postal and non-postal employees.

[2]nurse, customs inspector, immigration inspector, computer program
printing plant worker, custodial, or occupation not reported

Occupational disorders

	n	%
Mononeuritis only 61%	101	
Enthesopathy only 19%	31	
Both	13	8%
Other	20	12%

Published Results

- ICM produced no adverse health outcomes
- ICM improved patient satisfaction ratings
- ICM increased recommended accommodations
- Functional and work outcomes were affected by ergonomic and psychosocial work environment
- ICM was associated with more rapid RTW
- Influence of problem solving? –Shaw et al 2003

Chart Review

- Monthly CM reports (1-14 months)
- 3 reviewers
- Identify and categorize barriers to recovery specified in CM reports
- Development of coding form & criteria (first 30 cases by all 3 reviewers)

Problem area domains

- Symptoms
- Functional limitations
- Medical care
- Coping
- Work environment

Problems with symptoms

Problem	Frequency	%
Pain in affected limb	112	82%
Muscle weakness	47	34%
Numbness	35	26%
Pain elsewhere	25	18%
Swelling	23	17%
Limited range of motion	22	16%
Stiffness	21	15%
Sleep disturbance	17	12%
Other	6	4%

N = 137

Problems with function

Problem	Frequency	%
Housekeeping	19	14%
Activity increases pain	19	14%
Transportation	15	11%
Dependent on others	13	10%
Unable to use limb	10	7%
Cooking	5	4%
Other	20	15%

N = 137

Problems with medical care

Problem	Frequency	%
Comorbid conditions	18	13%
Need MD paperwork	12	9%
Need MD authorization	9	7%
Need diagnostic evaluation	9	7%
MD upset/uncooperative	8	6%
Need follow-up appt.	7	5%
Treatment noncompliance	7	5%
Diagnosis uncertain	5	4%
Other	30	22%

N = 137

Problems with coping

Problem	Frequency	%
Concerns about re-injury	20	15%
Frustrated/ no improvement	15	11%
May impact career	13	10%
Feeling depressed	11	8%
Inadequate medical treatment	8	6%
Feeling exhausted	5	4%
Other	22	16%

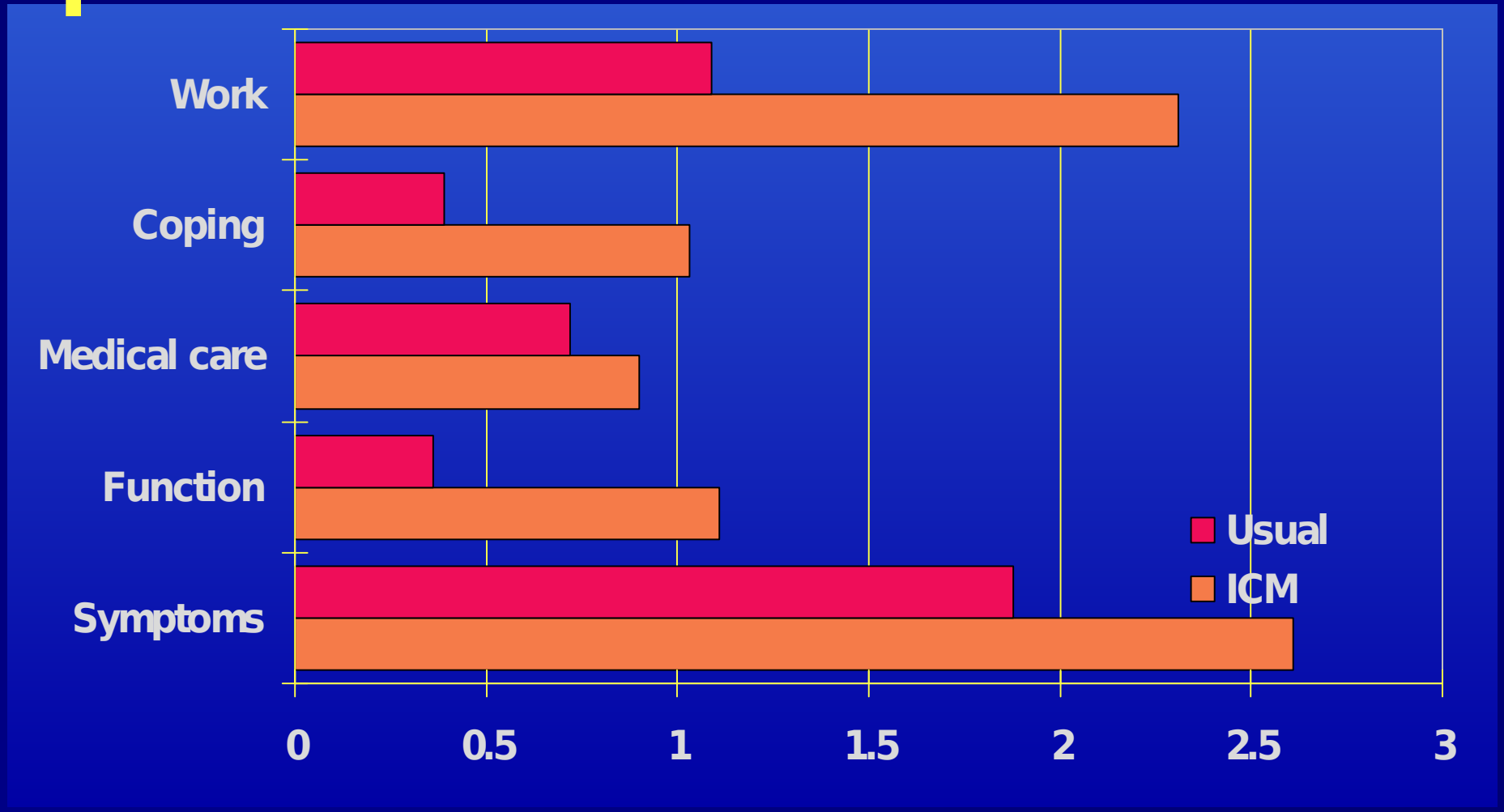
N = 137

Problems with work environment

Problem	Frequency	%
Repetitive tasks	49	36%
Need workstation redesign	38	28%
Lifting heavy objects	23	17%
Fast-paced work	13	10%
Need apparatus redesign	13	10%
Lack supervisor support	11	8%
Delays in payment for lost time	9	7%
Other	66	48%

N = 137

Number RTW problems reported



Discussion: ICM and RTW

- Problems associated with recovery and return to work involve ergonomic exposure and worker's perceptions of function.
- Case managers can play a more extensive role in patient management than tracking and cost containment.
- Problem solving skills training is useful for identifying multiple barriers to recovery.
- ICM should be applied and tested with many types of complex illnesses

Collaborators

- Virginia Miller
- Pat Wood
- Grant Huang
- Tom Armstrong
- Glenn Pransky

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